

Survey of Diabetic Retinopathy Screening Services in England and Wales

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A postal survey of diabetologists was conducted regarding the provision of diabetic retinopathy screening services in England and Wales. About 2.5 million people had no existing or planned screening service. For the rest, the perceived percentage of patients with diabetes screened varied from less than 25 % to more than 90 %. Multiple modes of screening were used in most units. Lack of funding was identified as the major reason for non-provision of an adequate screening service. About 18 % of the units had to use research or charitable funds for screening. Only 50 % of the units using optometrists for screening had standard protocols for referral. The average wait before an ophthalmologist's opinion on sight threatening retinopathy detected by screening was unacceptably high in some units. We would suggest that establishment of identical screening protocols and provision of adequate funding on a national basis ought to be the priority if incidence of blindness from diabetic retinopathy is to be reduced according to the St Vincent Declaration. © 1998 John Wiley & Sons, Ltd.

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Introduction

Diabetes mellitus is the leading cause of blindness in people of working age in this country.¹ Much of this is preventable. If sight-threatening retinopathy is detected in time, laser treatment can greatly reduce the progression to blindness.² To detect the patients who need laser, regular screening for all diabetic patients is recommended but as yet there is no standard screening programme in the United Kingdom. Funding for screening has also not been specifically identified on a national basis. Multiple modes of screening are in practice including: direct ophthalmoscopy by general practitioners or physicians or diabetologists; community or hospital-based retinal photography; examination by optometrists and technicians.³ No definite data are available on the relative percentages of each mode being used or of the sources of funding available. This survey was carried out to establish how many districts in England and Wales had developed eye screening programmes and to ascertain how this screening was carried out.

Materials and Methods

Survey Design and Data Collection

We identified 295 physicians with special interest in diabetes from the Register of the British Diabetic Association. A structured questionnaire with a set of answers to each question was sent by post to each consultant in May 1996. There were three questions where multiple responses were acceptable.

Results

Of the 295 questionnaires sent out, we received 182 replies. To avoid duplication of data, the name of the unit and approximate catchment population was asked at the beginning of the questionnaire. Those units which had more than one diabetologist were identified by manually collating the data and only one representative response from these units was chosen. At the end of this data analysis 150 units out of a possible 167 (89.3 %) were identified as having responded.

Fourteen units did not have any existing or planned screening service. Twelve of these units gave lack of funding as the reason for this. In the rest of the units the percentage of patients screened varied from 25 % to more than 95 %. In 45 % of the respondent units, general practitioners were screening for retinopathy while optometrists were involved in 64 %. Fundus cameras

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(hospital based or in the community) were used in 36 units. The principle purchasers of health services were funding screening in 72 % of the units but some of these were supplemented by other sources, including research and charitable funds in 18 %. No separate funds could be identified in 14 units. Average wait for treatment of proliferative diabetic retinopathy or maculopathy varied from less than 2 weeks to more than 26 weeks. A summary of the answers to the key questions is shown in Table 1. In addition to the questions mentioned in Table 1, the survey had also asked the relative percentage of each method of screening but none of the units had any data, hence the question was deleted from the final analysis.

Discussion

This survey was conducted among physicians with a special interest in diabetes as they are both involved in care of diabetic patients in the hospitals and in a unique position to be able to co-ordinate various screening services. Even in the units where screening services are led by ophthalmologists, physicians with special interest in diabetes are likely to be aware of them. A survey of all the general practitioners was ruled out because of the large numbers involved.

Postal survey was chosen as the preferred method as the responses are likely to be more considered, and hence more accurate, though it does suffer from the disadvantages that the forms may be mislaid or ignored. Even though the response to our survey seems to be poor in terms of individual response rates (182 out of 295) the number of units that responded was high (150 out of 167). Since most of the units have more than one physician with a special interest in diabetes, it was reasonable for only one of them to respond on others' behalf. As the number of non-responder units was low, a follow-up telephone sample survey was not considered.

Our results highlight several important issues that are at odds with the recommendations of the European Retinopathy Working Party.⁴ Out of the 150 respondent units, 14, covering a population of approximately 2 500 000 people, admitted to having no established or planned screening service. The numbers may even be higher if the 17 units which did not respond to our questionnaire are considered more likely to have a service which they were reluctant to advertise. Even in the units with established screening programmes, only 54 % were unable to screen more than 75 % of diabetic population in their area. This is in spite of continued efforts to increase awareness since the St Vincent Declaration⁵ and the high profile case of compensation against a health authority for not providing a screening service.⁶

Only two units had conducted audits to ascertain the percentage of people with diabetes being screened but the perceived percentages varied from less than 25 % to 100 %. A national audit on the exact number of diabetic

Table 1. Diabetic retinopathy screening services in 150 units

Answers to survey questions	Number (%) of units
<i>Established or planned retinopathy screening service in the area:</i>	
Yes	136 (90.6)
No	14 (9.4)
<i>Percentage of people with diabetes presently being screened (estimated or audited*):</i>	
<25 %	18 (12.0)
25–50 %	23 (15.3)
50–75 %	35 (23.3)
75–95 %	29 (19.3)
>95 %	30 (20.0)
Other responses (No idea, audit not done etc.)	14 (9.4)
<i>Methods of screening in use in the area (multiple responses):</i>	
GPs	68 (45.3)
Optometrists	97 (64.6)
Diabetologists/physicians	109 (72.6)
Fundus camera	36 (24.0)
Other	29 (19.3)
<i>Referral protocol for optometrists involved in screening:</i>	
Yes	54 (36.0)
No	43 (28.6)
<i>Funding of screening (multiple responses):</i>	
Main purchaser	108 (72.0)
Family Health Services Authority	48 (32.0)
Research funds	7 (4.6)
Charitable organizations	12 (8.0)
Other sources	8 (5.3)
No funding	14 (9.4)
<i>Referral of screened patients to the ophthalmologists (multiple responses):</i>	
Letter from the GP	68 (45.3)
Direct referral by the screener (if not the GP him/herself)	81 (54.0)
Direct access to special assessment/laser clinic	14 (9.4)
Other	0 (0.0)
<i>Average wait before a patient suspected of having proliferative retinopathy seen by the ophthalmologist:</i>	
<2 weeks	44 (29.3)
2–4 weeks	58 (38.6)
4–12 weeks	22 (14.6)
12–26 weeks	1 (0.6)
>26 weeks	1 (0.6)
<i>Average wait for diabetic maculopathy treatment:</i>	
<2 weeks	16 (10.6)
2–4 weeks	46 (30.6)
4–12 weeks	56 (37.3)
12–26 weeks	4 (2.6)
>26 weeks	1 (0.6)
Other (not known, varies widely etc.)	3 (2.0)

*Only two units had audited the screening.

patients being screened is required to find out how to improve upon the provision of this service. Our survey showed that 122 units are using multiple methods for screening, but it was not clear if the combined modalities

were used for each patient or if different patients were being screened by different modalities. None of the units had any data on the relative percentages of each method being used. Even though combined modalities of screening have been found to be the most effective and safe method of screening^{7,8} it may not be practical to use more than one modality in every patient.⁹

Although 97 centres were using trained optometrists for screening, only 54 had established a protocol for referral to the specialist for assessment for treatment. A standard national protocol agreed upon by the relevant Royal Colleges and Optical Associations would provide more uniform detection and increase the sensitivity of the service.

This survey brings to light the very important issue of funding for this service. Most of the units with no established or planned screening quoted the lack of funding as the main reason. Even though main purchasers of local health care were the chief sources of funding, many units are still dependent on alternative sources, including charitable organizations. Studies in the past have emphasized the cost effectiveness of providing an adequate screening service in comparison to cost of blindness.¹⁰

Once sight-threatening retinopathy has been identified, the wait for an ophthalmologist's opinion can also be a problem. Although in about 68 % of units patients suspected of proliferative retinopathy were seen within 4 weeks of referral, the average wait in 22 units was up to 12 weeks and one unit reported a totally unacceptable wait of more than 26 weeks. Similar results were reported for average wait for treatment of maculopathy. In our own experience a closer liaison between diabetologists and ophthalmologists avoids this problem. It is also useful to identify one ophthalmologist with special interest in diabetic retinopathy.

The variations in screening practices and funding for diabetic retinopathy service in Britain picked up from the survey have important implications. They highlight the need for establishing identical National screening protocols. The British Diabetic Association has just published guidelines relating to establishment of screening services based upon retinal cameras, and establishment of services based upon optometrists.^{11,12} Our survey has uncovered a major public health problem. A highly cost-effective and proven screening procedure for a preventable disease is not being provided adequately in many health districts. National Health Service should and must make adequate funds available for diabetic screening, if goals of the St Vincent Declaration of

reducing blindness due to diabetic retinopathy are to be met.

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